We claim:

1. A process for producing substantially pure pravastatin, the process comprising culturing microorganisms under conditions capable of converting compactin to pravastatin by maintaining a concentration of compactin not less than 300 μg/mL during the process.

2. The process of claim 1, wherein the culturing of microorganisms comprises fermentation.

3. The process of claim 2, wherein the fermentation comprises a repeated fed-batch culture technique.

4. The process of claim 2, further comprising periodically adding quantities of compactin during the fermentation to maintain the concentration of compactin at not less than 300 μg/mL during the process.

5. The process of claim 4, wherein the concentration of compactin is maintained within the range of about 300-900 μg/mL.

6. The process of claim 4, wherein the compactin is in the form of a solution.

7. The process of claim 4, wherein the compactin comprises any soluble salt of compactin.

8. The process of claim 7, wherein the compactin solution comprises the sodium salt of compactin.

9. The process of claim 1, wherein the microorganism belongs to the *Streptomyces* genus.

10. The process of claim 9, wherein the microorganism is a *Streptomyces carbophilus* strain, variant or mutant thereof.

11. The process of claim 10, wherein the microorganism is a *Streptomyces carbophilus* strain.

12. The process of claim 1, wherein the conditions capable of converting compactin to pravastatin comprise a fermentation production medium comprising glucose at a concentration of about 15-23 (g/L), Soya bean meal at a concentration of about 25-38 (g/L), cottonseed meal at a concentration of about 2-4 (g/L), corn steep liquor at a concentration of about 5-8 (g/L), sodium chloride at a concentration of about 5-6 (g/L) and calcium carbonate at a concentration of about 2-3 (g/L).

13. The process of claim 12, wherein the conditions capable of converting compactin to pravastatin further comprise maintaining the temperature of the production medium at about 18 °C to about 50°C.

14. The process of claim 13, wherein the temperature is maintained at about 25 °C to about 30°C.

15. The process of claim 12, wherein the conditions capable of converting compactin to pravastatin further comprise maintaining pH of the production medium at about 5 to about 10.

16. The process of claim 15, wherein the pH is maintained at about 6 to about 8.5.

17. The process of claim 15, wherein the pH is maintained at about 7.3 to about 8.0.

18. The process of claim 12, wherein the conditions capable of converting compactin to pravastatin further comprises agitation at about 100 to about 600 rpm.

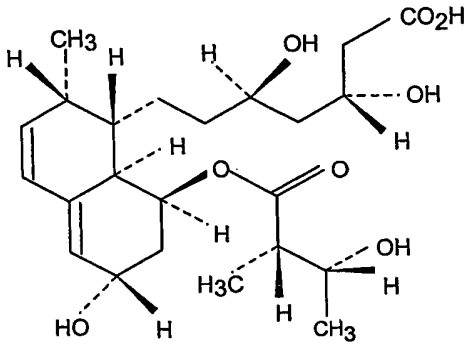
19. The process of claim 18, wherein the agitation is at about 100 to about 350 rpm.

20. The process of claim 1, wherein at least 50% w/w of compactin is converted to pravastatin as determined by HPLC.

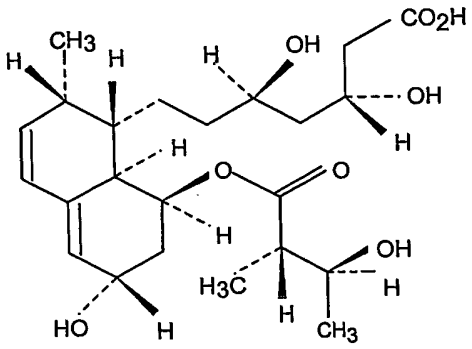
21. The process of claim 20, wherein the percentage conversion is at least about 65 to about 75% w/w.

22. The process of claim 20, wherein the percentage conversion is at least about 70% w/w.

23. Substantially pure pravastatin containing not more than about 0.12% w/w of the compound of Formula III and not more than about 0.6% w/w of 3"-hydroxy-pravastatin of the structure of Formula IV.

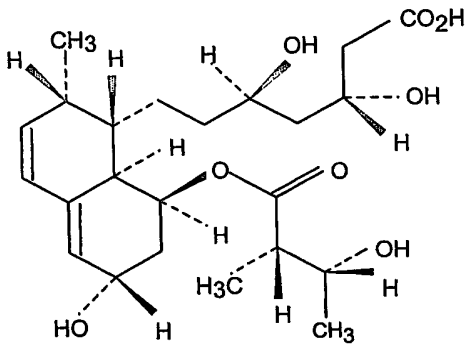


FORMULA III

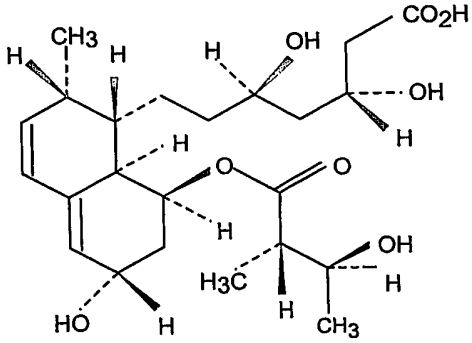


FORMULA IV

24. A pharmaceutical composition comprising substantially pure pravastatin, not more than about 0.12% w/w of the compound of Formula III, not more than about 0.6% w/w of 3"-hydroxy-pravastatin of the structure of Formula IV, and pharmaceutically acceptable excipients.

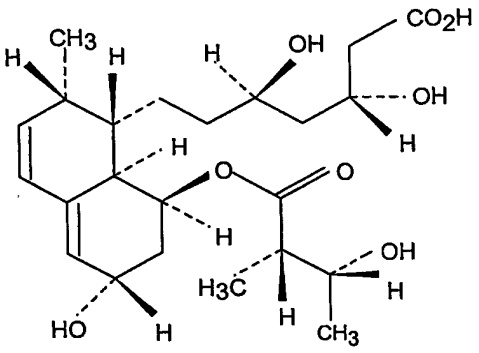


FORMULA III

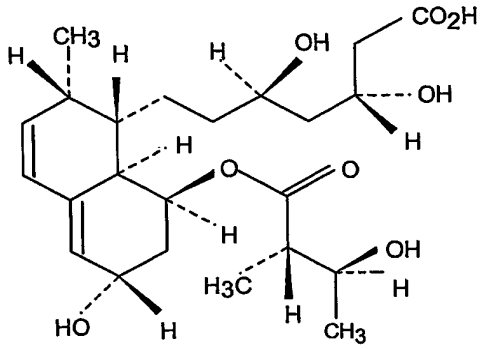


FORMULA IV

25. A method of treating hypercholesterolemia comprising administering to a patient in need of treatment for hypercholesterolemia a pharmaceutical composition comprising substantially pure pravastatin, not more than about 0.12% w/w of the compound of Formula III, not more than about 0.6% w/w of 3"-hydroxy-pravastatin of the structure of Formula IV, and pharmaceutically acceptable excipients.



FORMULA III



FORMULA IV